植物研究雑誌
J. Jpn. Bot.
81: 35–40 (2006)

Additions and Corrections in Salicaceae of Japan 1

Hiroyoshi OHASHI[a] and Koji YONEKURA[b]

[a]Botanical Garden, Tohoku University, Sendai, 980-0862 JAPAN;
E-mail: ohashi@mail.tains.tohoku.ac.jp
[b]The Mt. Hakkoda Botanical Laboratory, Tohoku University, Aomori, 030-0111 JAPAN

(Received on September 23, 2005)

A systematic account of Japanese Salicaceae by Ohashi (2001) is revised. A new combination, *Salix miyabeana* Seemen subsp. *gymnolepis* (H. Lév. & Vaniot) H. Ohashi & Yonek., is proposed. *Salix alopochroa* Kimura and its var. *psilostachys* Kimura is recognized as a subspecies and a form of *S. vulpina*, respectively: subsp. *alopochroa* (Kimura) H. Ohashi & Yonek. and f. *psilostachys* (Kimura) H. Ohashi & Yonek. *Salix yoshinoi* Koidz. and S. *jessoensis* Seemen subsp. *serissifolia* (Kimura) H. Ohashi are separated from *S. jessoensis* Seemen as distinct taxa.

Key words: Japanese Salicaceae, new combinations, nomenclature, *Salix*, taxonomy.

Studies of Japanese Salicaceae were begun by Thunberg (1784a, 1784b) and succeeded chiefly by Miquel (1866–1867), Andersson (1867), Franchet and Savatier (1875, 1878) and Tokubuchi (1896a, 1896b, 1896c). After this, Seemen (1903) prepared the fundamental work for the Japanese *Salix*. Koidzumi (1913) revised the previous works and described many new species. Kimura made a long-term contribution to Japanese Salicaceae from 1926, and his final treatment for the Japanese Salicaceae was published as a part of the illustrated woody flora of Japan (Kimura 1989). Meanwhile, Ohwi (1953, 1965a, 1965b) and Kitamura and Murata (1979) presented the family in their elaborated floras of Japan. A whole systematic work of Japanese Salicaceae was achieved for the first time by Ohashi (2000, 2001). Continuous studies on the family are required to make additions and corrections to the work.

1. A new name for a subspecies of *Salix miyabeana* Seemen

Ohashi (2000, 2001) regarded *Salix gilgiana* Seemen as a subspeices of *S. miyabeana* Seemen and proposed a new combination for the former as *S. miyabeana* Seemen subsp. *gilgiana* (Seemen) H. Ohashi. However, Koidzumi (1913) published an earlier name at the subspecific rank for the taxon. It is *S. purpurea* L. subsp. *gymnolepis* (H. Lév. & Vaniot) Koidz. According to 11.4 of ICBN 2000 (Greuter et al. 2000), this subspecific name is correct for *S. miyabeana* subsp. *gilgiana*. The following new combination becomes necessary:

Salix miyabeana Seemen subsp. **gymnolepis** (H. Lév. & Vaniot) H. Ohashi & Yonek., comb. nov.

S. gilgiana Seemen, Salic. Jap.: 59, t. 13 (1903).

S. gymnolepis H. Lév. & Vaniot in Fedde, Repert. Nov. Sp. **3**: 22 (1906).

S. purpurea L. var. *sericea* Seemen, Salic. Jap.: 56 (1903); Koidz. in Bot. Mag. Tokyo

27: 92 (1913).

S. purpurea L. subsp. *gymnolepis* (H. Lév. & Vaniot) Koidz. in Bot. Mag. Tokyo **27**: 267 (1913).

S. miyabeana Seemen subsp. *gilgiana* (Seemen) H. Ohashi in J. Jpn. Bot. **75**: 22 (2000) & in Sci. Rep. Tohoku Univ. ser. 4, Biol. **40**: 335 (2001).

Japanese name: Kawa-yanagi.

2. A geographical form in *Salix vulpina* Andersson

Salix vulpina Andersson occurs from Iturup and Shikotan in the southern Kuriles through Hokkaido, Honshu and Shikoku to northern Kyushu. The species was described on the basis of plants collected in Yokohama, but the correct locality is considered to be Hakodate in Hokkaido (Kimura 1957). Kimura (1937) recognized *Salix alopochloa* when he described a hybrid, *Salix* × *ishikawae* Kimura, between *S. udensis* Trautv. & Mey (as *S. sachalinensis* Schmidt) and *S. alopochloa* Kimura. He gave a footnote for the later parent that "*Salix alopochloa* Kimura, sp. nov. = *S. vulpina* (non Andersson) Auct. ex regionibus Kinki, Tyûgoku, Sikoku and Kyûsyû". This name was validly published by Kimura (1950) when he recorded a monstrous form, *S. alopochroa* mstr. *androgyna* Kimura. He gave diagnostic characterization for this species, but did not designate a type for the name. This species was distinguished from *S. vulpina* in having minute leaves on the flowering branchlet or lacking such leaves and somewhat short but thick male catkins, while *S. vulpina* has small, but distinct leaves on the flowering branchlet and male catkins 3–5 cm long, 5–10 mm across (Kimura 1950, 1989). In addition to the morphological differences its distribution was considered to be confined to Kinki District and westward to northern Kyushu (Kimura 1950, 1989). It had the Japanese name "Saikoku-kitsuneyanagi" until it was introduced in a Japanese horticultural book in 1956 (Kimura 1956), although Ohwi (1953) cited the species without a Japanese name under *S. vulpina* for the first time in Japanese. The Japanese name means *S. vulpina* of western Japan.

Ohashi (2000, 2001) regarded *S. vulpina* as a single species that is polymorphic in response to its diverse habitat. The leaves on flowering branchlet of *S. alopochloa* rarely developed to reach the same size as leaves in *S. vulpina* and size of the male catkin is continuous between the two species. However, geographical distribution becomes clearer and *S. alopochloa* and *S. vulpina* are separated by the Kiso mountain range in Nagano Prefecture. *Salix vulpina* occurs northeastward of the mountain range, while *S. alopochloa* westward of the range. They show different patterns of distribution. The former is found commonly in Hokkaido and Tohoku District and extends westward through Niigata Prefecture to northern Nagano Prefectures (rare) and southward to Tochigi Prefecture (rare). On the other hand, *S. alopochloa* is common in Kinki District from where it is found west into Chugoku District, Shikoku and northern Kyushu (rare) and east into Gifu, Nara and Wakayama Prefectures, and rarely in Aichi and southwestern Nagano (west of the Kiso mountain range). We recognize, therefore, *S. alopochloa* as a geographical subspecies of *S. vulpina*. The type of *S. alopochloa* is selected here from Kimura's collection (Fig. 1).

A form of *Salix vulpina* with glabrous bracts was recognized by Kimura (1926) as a distinct variety, but it belongs to *S. alopochloa*. It is merely a form of *Salix vulpina* subsp. *alopochloa*.

The infraspecific taxa of *Salix vulpina* treated here are distinguished as in the following key:

A. Flowering branchlets with 3–7 small

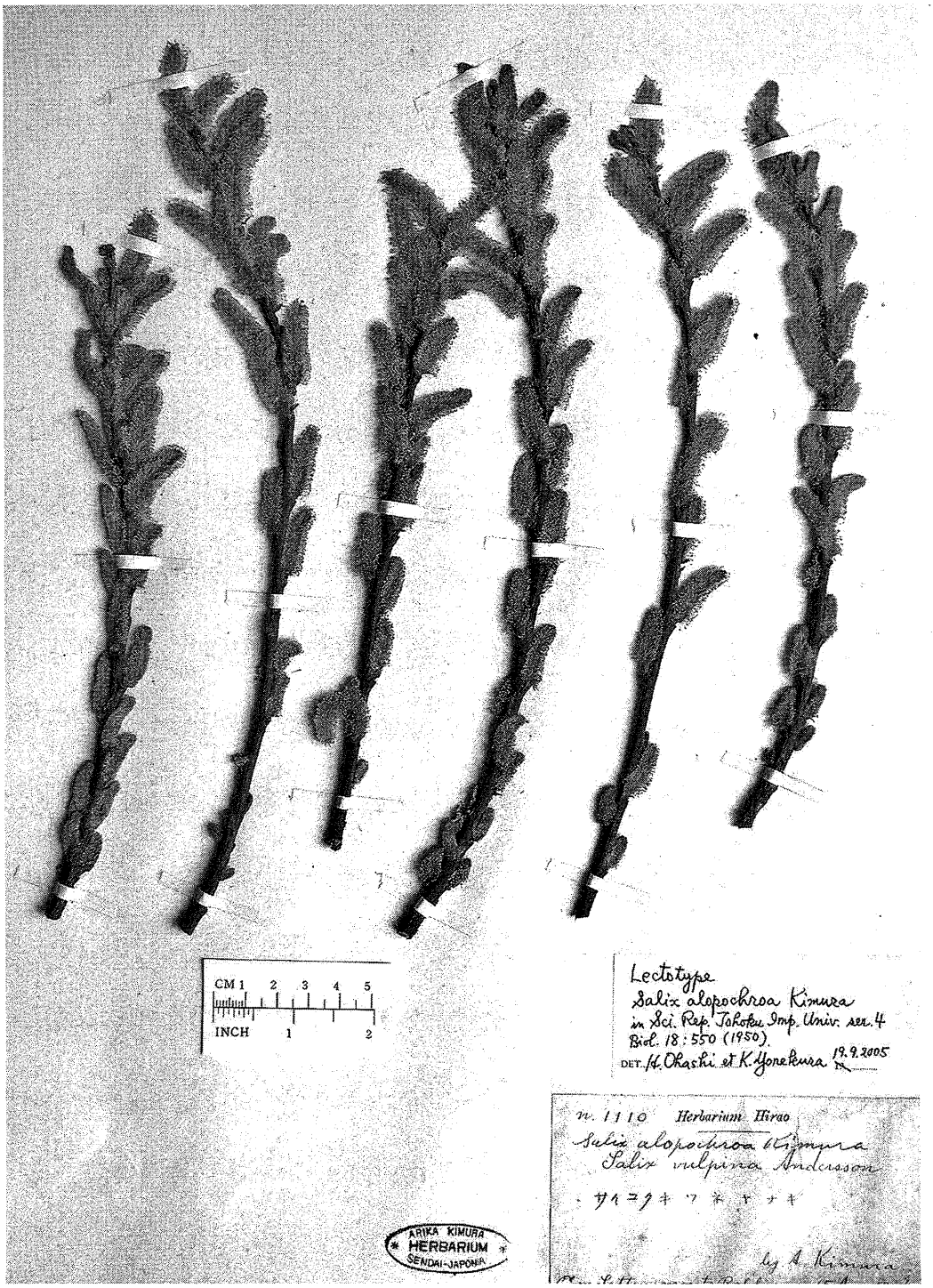

Fig. 1. Lectotype of *Salix alopochroa* Kimura (TUS-K).

leaves; W. Nagano and Aichi Prefectures and westward ..... subsp. *vulpina*
A. Flowering branchlets without or with a few minute leaves; N. Nagano and eastward ..... subsp. *alopochroa*
B. Bracts pilose ..... f. *alopochroa*
B. Bracts glabrous ..... f. *psilostachys*

Salix vulpina Andersson in Mem. Am. Acad. Arts Sci. n. s. **6**: 452 (1859); H. Ohashi in Sci. Rep. Tohoku Univ. ser. 4, Biol. **40**: 360 (2001).

subsp. **alopochroa** (Kimura) H. Ohashi & Yonek., stat. nov.

S. alopochroa Kimura in Sci. Rep. Tohoku Imp. Univ. ser. 4, Biol. [**12**: 100 (1937), ad nota, nom. nud.] **18**: 550 (1950); Ohwi, Fl. Jap.: 404 (1953) ut "*S. alopechroa*"; Kimura in Ishii, Engei-daiziten **6**: 3184 (1956); Ohwi, Fl. Jap. ed. Engl.: 367 (1965); op. cit. ed. rev.: 472 (1965); Kitam. & Murata, Col. Illust. Woody Pl. Jap. **2**: 323, fig. 778 (1979); Kimura in Satake & al., Wild Flow. Jap. Wood. **1**: 45, photo 51: 7–8 (1989); Ohwi & Kitag., New Fl. Jap.: 538 (1992), ut *S. alopechroa*.

Lectotype (designated here): Japan. Honshu. Hyogo Pref. (Prov. Settsu), monte Rokkosan. 15 April 1926. Arika Kimura 1110 (TUS-K).

Japanese name: Saikoku-kitsune-yanagi.

f. **psilostachys** (Kimura) H. Ohashi & Yonek., comb. et stat. nov.

S. vulpina Andersson var. *psilostachys* Kimura in Bot. Mag. Tokyo **40**: 642 (1926). **Type**: Japan. Honshu. Hyogo Pref. (Prov. Settsu): in fruticetis siccis graminosis montis Rokkosan. 27 April 1924. Arika Kimura 148 (TI holo. TUS-K iso.).

S. alopochroa Kimura var. *psilostachys* (Kimura) Kimura in Eco. Rev. **13**: 199 (1953); Sugimoto, New Keys Jap. Tr.: 101 (1961).

Japanese name: Kansai-kitsune-yanagi (Sugimoto 1961).

3. Corrections in *Salix jessoensis* Seemen

Ohashi (2001) enlarged the circumscription of *Salix jessoensis* Seemen in his previous treatment (Ohashi 2000) by inclusion of *S. yoshinoi* Koidz. and *S. serissifolia* Kimura or *S. jessoensis* subsp. *serissifolia* (Kimura) H. Ohashi as synonyms, but the previous treatment need to be restored. These taxa are distinguished as in the following key:

A. Leaf underside pale green and glabrous or appressed white pubescent on midrib; male catkins 2–3 cm long, female ca. 1 cm long; ovary ca. 2.2 mm long, style ca. 0.7 mm long ..... *S. yoshinoi*
A. Leaf underside glaucous and densely sericeous; male catkins 2.5–4.5 cm long, female ca. 3 cm long; ovary 2.7–2.8 mm long, style sessile ..... *S. jessoensis*
B. Male catkins 2.5–4.5 cm long, female ca. 3 cm long, ovary densely pilose, sessile, ca. 3 mm long; leaf blade 5–11 cm long, 1–2 cm wide ..... subsp. *jessoensis*
B. Catkins 1–2 cm long, ovary glabrous or sparsely pubescent at base, subsessile, 1.5–2 mm long; leaf blade 4–7 cm long, 0.9–1.2 cm wide ..... subsp. *serissifolia*

Salix yoshinoi Koidz. in Bot. Mag. Tokyo **29**: 314 (1915); Kimura in Satake & al., Wild Flow. Jap. Wood. **1**: 40 (1989); Ohashi in J. Jpn. Bot. **75**: 16 (2000).

S. pseudoyoshinoi Koidz. in Acta Phytotax. Geobot. **4**: 40 (1935).

Japanese name: Yoshino-yanagi.

Salix jessoensis Seemen, Salic. Japon.: 31 (1903); H. Ohashi in J. Jpn. Bot. **75**: 16 (2000) & in Sci. Rep. Tohoku Univ. ser. 4, Biol. **40**: 318 (2001), p. p., excl. *S. yoshinoi* Koidz., *S. pseudoyoshinoi* Koidz.

subsp. **jessoensis**: H. Ohashi in J. Jpn. Bot. **75**: 16 (2000).

Japanese name: Shiro-yanagi.

subsp. **serissifolia** (Kimura) H. Ohashi in J. Jpn. Bot. **75**: 17 (2000), as *serissaefolia*.

S. serissifolia Kimura in Bot. Mag. Tokyo

40: 639 (1926), as *serissaefolia*.
Japanese name: Kogome-yanagi.

References

Andersson N. J. 1867. Monographia Salicum. Kongl. Svenska Vetenskapsakad. Handl. **6**: 1–180.

Franchet A. and Savatier L. 1875, 1878. Salicaceae. Enumeratio Plantarum in Japonia Sponte Crescentium. **1**: 458–463 (1875) and **2**: 502–506 (1878). Parishs, Apud F. Savy, Bibliopolam. Paris.

Greuter W., McNeill J., Barrie F. R., Burdet H. M., Demoulin V., Filgueiras T. S., Nicolson D. H., Silva P. C., Skog J. E., Trehane P, Turland N. J. and Hawksworth D. L. 2000. International Code of Botanical Nomenclature (Saint Louis Code). Koeltz Scientific Books, Königstein.

Kimura A. 1926. Contributiones ad Salicologiam Japonicam II. Bot. Mag. Tokyo **40**: 633–643.

—— 1937. Symbolae Iteologicae III. Sci. Rep. Tohoku Imp. Univ. ser. 4 Biol. **12**: 97–113, t. 3–8.

—— 1950. Symbolae Iteologicae X. Sci. Rep. Tohoku Univ. ser. 4 Biol. **18**: 544–553.

—— 1956. Salicaceous plants. Ishii Y. (ed.), Engeidaiziten **6**: 2425–2439 (in Japanese).

—— 1957. Symbolae Iteologicae XIV. Sci. Rep. Tohoku Univ. ser. 4 Biol. **23**: 7–16, pls. 1–4.

——1989. Salicaceae. *In*: Satake Y., Hara H., Watari S. and Tominari T. (eds.), Wild Flowers of Japan, Woody Plants. **1**: 31–51. Heibonsha, Tokyo (in Japanese).

Kitamura S. and Murata G. 1979. Salicaceae. Coloured Illustrations of Woody Plants of Japan. **2**: 303–340. Hoikusha, Osaka (in Japanese).

Koidzumi G. 1913. Spiciligium salicum japonensium novarum aut imperfecte cognitarum. I. Bot. Mag. Tokyo **27**: 87–97. II. Bot. Mag. Tokyo **27**: 264–267.

Miquel F. A. W. 1866–1867. "Salicineae" *In*: Prolusio florae iaponicae. Ann. Mus. Bot. Lugd.-Bat. **3**: 24–30.

Ohashi H. 2000. A systematic enumeration of Japanese *Salix* (Salicaceae). J. Jpn. Bot. **75**: 1–41.

—— 2001. Salicaceae of Japan. Sci. Rep. Tohoku Univ., ser. 4 Biol. **40**: 269–396.

Ohwi J. 1953. Salicaceae. Flora of Japan. pp. 395–408. Shibundo, Tokyo (in Japanese).

—— 1965a. Salicaceae. Flora of Japan, English edition. pp. 361--369. Smithsonian Institution, Washington D.C.

—— 1965b. Salicaceae. Flora of Japan, revised edition. pp. 462–476. Shibundo, Tokyo (in Japanese).

Seemen O. von 1903. Salices Japonicae. 83 pp., tt. 1–18. Gebrüder Borntraeger, Leipzig.

Thunberg C. P. 1784a (May–June). Salices. *In*: Murray J. A., Systema Vegetabilium ed. 14. Jo. Christ Dieterich, Göttingen.

—— 1784b. Flora Iaponica. 420 pp. In Bibliopolio J. G. Mülleriano, Lipsiae.

Tokubuchi Y. 1896a. *Salix* of Hokkaido. Bot. Mag. Tokyo **10**: 120–125 (in Japanese).

—— 1896b. *Salix* of Hokkaido. Bot. Mag. Tokyo **10**: 339–341 (in Japanese).

—— 1896c. On some species of *Salix* of Hokkaido. I. Bot. Mag. Tokyo **10**: 69–71.

大橋広好，米倉浩司：**日本産ヤナギ科植物の追加と訂正 1**

日本のヤナギ科の分類学的研究は Thunberg (1784a, 1784b) に始まり，Miquel (1866–1867)，Franchet and Savatier (1875, 1878)，Tokubuchi (1896a, 1896b, 1896c) を経て，Seemen (1903) によってヤナギ属がまとめられた．さらに小泉源一 (1913)，その後1920年代から木村有香によって進められ，木村はヤナギ科全体にわたって多くの成果を発表した．木村 (1989) は佐竹義輔他 (編)：日本の野生植物 (平凡社) の中でヤナギ科を分担執筆し，最後に日本の自生種をまとめた．その間にも日本のヤナギ科は大井次三郎 (1953, 1965)，北村四郎と村田 源 (1979) によってそれぞれ日本の代表的な植物誌の中で発表された．これまでの研究は主に日本のフロラの一環として発表されてきたが，Ohashi (2000, 2001) は日本のヤナギ科全体をモノグラフ的に整理し，世界のヤナギ科植物との分類学的な関連を明らかにした．

Ohashi (2000, 2001) はヤナギ属の範囲を変更し，従来ヤナギ属，ケショウヤナギ属，オオバヤナギ属に分けられてきたヤナギ類をヤナギ属に統合した．木村 (1989) は日本に自生するヤナギ類は3属36種，Ohashi (2000, 2001) は1属30–31種を認めている．以下では Ohashi の定めた範囲でヤナギ属を使用する．しかし，その後の研究によって Ohashi (2000, 2001) の結果について補充，訂正が必要となった．本研究ではカワヤナギ，サイコクキツネヤナギ，ヨシノヤナギおよびコゴメヤナギについての結果をまとめた．

1．カワヤナギ：Ohashi (2000, 2001) はカワヤナギをエゾノカワヤナギの亜種とみなしてその学

名を *S. miyabeana* Seemen subsp. *gilgiana* (Seemen) H. Ohashi に変更した．しかし，カワヤナギは亜種ランクの学名として1913年に発表された *Salix purpurea* L. subsp. *gymnolepis* (H. Lév. & Vaniot) Koidz.があるので，*S. miyabeana* Seemen subsp. *gilgiana* (Seemen) H. Ohashi に代えて *S. miyabeana* subsp. *gymnolepis* (H. Lév. & Vaniot) H. Ohashi & Yonek. を使用しなければならない．

2．サイコクキツネヤナギ：サイコクキツネヤナギの学名として1937年に発表された *Salix alopochroa* Kimura は裸名で和名もなかった．しかし木村は1950年にサイコクキツネヤナギの一奇形を記載したときに，フットノートに母種の判別文を記述していた．学名 *Salix alopochroa* は1950年に正式に発表されたことになる．和名サイコクキツネヤナギは1956年に木村が命名した．木村は1924年に兵庫県六甲山でキツネヤナギの苞が無毛の一型をみつけ，*Salix vulpina* var. *psilostachys* Kimura と命名し，後にサイコクキツネヤナギの変種に組み替えた．これはカンサイキツネヤナギと呼ばれる．これをサイコクキツネヤナギの品種とした．

3．シロヤナギの範囲：Ohashi (2001) はシロヤナギ，ヨシノヤナギ，コゴメヤナギを合一してシロヤナギとしたが，この見解を Ohashi (2000) の見解に戻し，シロヤナギとヨシノヤナギは別種，コゴメヤナギはシロヤナギの亜種とした．

([a]東北大学植物園津田記念館，
[b]東北大学植物園八甲田分園)